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| 09/927,075 | 08/10/2001 | Jianhong Hu | | 4940 |

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| EXAMINER | |
|---|---|
| GENACK, MATTHEW W | |
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 09/927,075 | HU, JIANHONG | |
| | Examiner | Art Unit | |
| | Matthew W. Genack | 2617 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *13 November 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-6 and 8-15* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6 and 8-15* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

## DETAILED ACTION

1. An examination of this application reveals that applicant is unfamiliar with patent prosecution procedure. While an inventor may prosecute the application, lack of skill in this field usually acts as a liability in affording the maximum protection for the invention disclosed. Applicant is advised to secure the services of a registered patent attorney or agent to prosecute the application, since the value of a patent is largely dependent upon skilled preparation and prosecution. The Office cannot aid in selecting an attorney or agent.

A listing of registered patent attorneys and agents is available on the USPTO Internet web site http://www.uspto.gov in the Site Index under "Attorney and Agent Roster." Applicants may also obtain a list of registered patent attorneys and agents located in their area by writing to the Mail Stop OED, Director of the U. S. Patent and Trademark Office, PO Box 1450, Alexandria, VA 22313-1450

### *Claim Rejections - 35 USC § 112*

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 1-6 and 8-15 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claims contain subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor, at the time the application was filed, had possession of the claimed invention.

Applicant claims a wireless terminal and an access point that are capable of supporting a large number of wireless standards, but fails to explain the technical details of enabling these apparatuses to support this plethora of interfaces. More specifically, Applicant does not address, in detail, the software and hardware issues associated with supporting these wireless standards, but rather merely mentions and draws apparatuses that are allegedly capable of this feat. Thus, the specification fails to disclose any specific details for enabling one skilled in the art to make the invention.

4. Claims 1-6 and 8-15 rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The Claims contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor, at the time the application was filed, had possession of the claimed invention. Specifically, the specification does not mention DSPAC (or digital signal processing in general), OIPs, WLANs, WPANs, or BWAs.

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. The use of the adjective "open" to modify the noun "interfaces" in Claims 1-6 and 10-15 renders said Claims indefinite because the word "open" indicates that the metes and bounds of these Claims are not specified.

7. Claim 8 recites the limitation "A sample phone system of the converged broadband wireless terminal device" in Lines 1-2. There is insufficient antecedent basis

for this limitation in Claim 8 because Claim 8 is an independent claim and thus it is unclear what "the converged broadband wireless terminal device" refers to.

8. Claim 15 recites the limitation "The convergence system" in Line 1. There is insufficient antecedent basis for this limitation in Claim 15 because Claim 15 is an independent claim.

***Claim Rejections - 35 USC § 103***

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

10. Claims 1-2 and 4-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jorgensen, U.S. Patent No. 6,862,622, in view of Willhoff, U.S. Patent No. 5,887,262.

Regarding Claims 1-2, Jorgensen discloses a system architecture for wireless IP packet communication; several wireless air interface protocols, such as TDMA, FDMA, and CDMA, may be used (Abstract, Column 3 Lines 31-59, Column 6 Lines 4-9). The system architecture involves the convergence of separate voice, video, and data networks into a single broadband network (Column 2 Lines 40-56, Column 3 Lines 60-65, Column 33 Lines 6-25, Fig. 2C). Jorgensen discloses a cellular telephone as part of this converged network (Column 24 Lines 42-46, Fig. 2A). It is inherent that the cellular telephone in this wireless IP network contains a transceiver for upconverting the base band analog signal equivalent of the user's voice to the

radio transmission frequency, converting downlink digital packet data to analog signals, and downconverting this analog signal to a base band signal that is sent to a speaker adjacent to the user's ear. It is inherent that the cellular telephone contains a processor, or set of processors, for executing whatever wireless algorithms and protocols (TDMA, FDMA, CDMA as mentioned above) are being used by the cellular telephone at any given time, and a basic input/output system for controlling the processor(s) as well as the transceiver in its use of the various wireless air interface protocols, and a memory for storing the various air interface protocol software modules and loading them to the basic input/output system as needed. Jorgensen discloses wireline infrastructure comprising an end office switch and a cellular tower for communicating with the aforementioned cellular telephone (Column 24 Lines 42-48, Fig. 2A). It is inherent that this infrastructure contains a transceiver for converting from digital base band data to a radio frequency analog signal and vice versa, as well as a processor, or set of processors, for executing whatever wireless algorithms and protocols (TDMA, FDMA, CDMA as mentioned above) are being used by the cellular tower at any given time, and a basic input/output system for controlling the processor(s) as well as the transceiver in its use of the various wireless air interface protocols, and a group of software modules associated with the various air interface protocol software modules for use by the basic input/output system. An access tandem connects the end office switch to backbone wireline networks (Fig. 2A). Jorgensen discloses that the aforementioned converged network may be connected to the Internet, an IP packet network (Column 25 Lines 10-15). Digital signal

processing is inherent to the system architecture of Jorgensen, because said system architecture converts analog signals to digital signals and vice versa.

Jorgensen does not expressly disclose the use of smart antennas.

Willhoff discloses the use of a smart antenna array with a base station in the context of multiple air interface protocols for digital cellular systems (Abstract, Column 3 Lines 19-38, Column 4 Lines 28-41).

At the time that the invention was made, it would have been obvious to one of ordinary skill in the art to modify the invention of Jorgensen by using a smart antenna array in the base station.

One of ordinary skill in the art would have been motivated to make this modification because smart antennas reduce the amount of interference between users, thus reducing the bit error rate, thereby allowing for faster data downlink transmission rates.

Claim 4 recites an architecture wherein integrated services of voice, data, and video are transmitted between the converged wireless terminal and the common access point via all-IP end-to-end direct signaling and protocol. Jorgensen discloses point-to-multipoint wireless packet transmission of IP voice, video, and data (Column 6 Lines 4-9, Column 33 Lines 6-15).

Claim 5 recites that the common air interface basic input/output system provides information on the air interfaces that comprises transmission parameters, modulation parameters, channel parameters, access control parameters, and dynamic bandwidth allocation parameters. Jorgensen

discloses the practice of dynamic bandwidth allocation (Column 3 Lines 46-48, Column 33 Lines 6-15). Jorgensen fails to disclose a basic input/output system for providing information pertaining to the air interfaces to the transceiver. Examiner takes official notice that there exist basic input/output systems for providing the transceivers of working wireless communication devices with parameters for transmission, modulation, channels to be used, and access control. It would have been obvious to explicitly specify such a basic input/output system for the wireless communication devices because it is the domain of basic input/output systems to control bidirectional communication between an electronic communication device and one or more users, and the aforementioned parameters are basic facets that must be addressed for wireless communication to occur. Applicant's failure to traverse the Examiner's taking of Official Notice in the first Office Action is taken as an admission of the facts noticed.

Claim 6 recites the local storage of air interface modules in both the converged wireless terminal and the common access point and the uploading of air interface modules to the common access point from a remote network. Jorgensen fails to disclose the local storage of air interface modules in both the converged wireless terminal and the common access point and the uploading of air interface modules to the common access point from a remote network. Examiner takes official notice that both the wireless terminal and the common access point may store software, pertaining to wireless

standards, locally. This modification is obvious because local storage of necessary software is extremely common in solid-state electronic information processing devices and allows users the convenience of not having to insert objects containing the necessary software every time the devices are to be used. Examiner takes official notice that the common access point may download software as necessary from a remote network. This modification is obvious because the transfer of software between remotely connected IP devices is extremely common and gives users the capability of upgrading and enhancing the performance of said devices. Applicant's failure to traverse the Examiner's taking of Official Notice in the first Office Action is taken as an admission of the facts noticed.

Regarding Claim 9, it is inherent that the cellular telephone of the invention of Jorgensen comprises software for enabling said cellular telephone to interact with the wireless network and software for executing applications on the telephone.

Regarding Claim 10, it is inherent that the cellular telephone of the invention of Jorgensen comprises a processor, or processors, that decode, dechannelize, and demodulate the received baseband and control signals of the air interface into signaling, traffic, and control information.

Regarding Claim 11, the cellular tower is connected to an access tandem (AT) that may be configured as a gateway or intelligent peripheral (Column 24 Lines 18-22, Fig. 2A).

11. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jorgensen in view of Willhoff, further in view of Hagen, U.S Patent Application Publication 2002/0075844.

Hagen discloses that a mobile terminal of the discloses broadband wireless network may automatically or manually self-configure its configuration parameters ([0197]). Hagen fails to disclose this feature for the fixed wireless infrastructure. Examiner takes official notice that it was well known in the art at the time of the invention for a common access point to be reconfigurable, programmable, and software definable. This modification is obvious because there are numerous examples of both types of devices that have the same set of functions as a desktop personal computer (the ability to read from and write to memory, the ability to install new software, etc.), and such flexibility allows both the mobile wireless terminal and the fixed wireless infrastructure to be updated when new standards come into existence. Applicant's failure to traverse the Examiner's taking of Official Notice in the first Office Action is taken as an admission of the facts noticed.

At the time that the invention was made, it would have been obvious to one of ordinary skill in the art to modify the invention of Jorgensen as modified by Willhoff by providing the means for the wireless terminal and the access point to automatically or manually select any of the available air interface protocols.

One of ordinary skill in the art would have been motivated to make this modification because it gives the user the flexibility of choosing a given protocol or of allowing the best available protocol to be chosen.

12. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jorgensen in view of Willhoff, further in view of Hagen, further in view of Kerr, U.S. Patent Application Publication 2002/0142844. Jorgensen discloses the practice of dynamic bandwidth allocation (Column 3 Lines 46-48, Column 33 Lines 6-15).

Hagen discloses that a mobile terminal of the discloses broadband wireless network may automatically or manually self-configure its configuration parameters ([0197]).

At the time that the invention was made, it would have been obvious to one of ordinary skill in the art to modify the invention of Jorgensen as modified by Willhoff by providing the means for the wireless terminal and the access point to automatically or manually select any of the available air interface protocols.

One of ordinary skill in the art would have been motivated to make this modification because it gives the user the flexibility of choosing a given protocol or of allowing the best available protocol to be chosen.

Neither Jorgensen, nor Willhoff, nor Hagen expressly discloses the use of fingerprints and voiceprints.

Kerr discloses a biometric broadband gaming system and method (Abstract, [0034], Fig. 2). Voice patterns and fingerprints are used as forms of user

verification ([0059], [0060], [0067]).

At the time that the invention was made, it would have been obvious to one of ordinary skill in the art to modify the invention of Jorgensen as modified by Willhoff as modified by Hagen by providing the means for taking and identifying fingerprints and voice patterns.

One of ordinary skill in the art would have been motivated to make this modification so as to prevent unauthorized use of a user's wireless terminal and his special services, such as voice mail.

***Response to Arguments***

13. Applicant's arguments filed 21 September 2007 have been fully considered but they are not persuasive.

Applicant makes assertions in Item 1, on Page 1 of Remarks. None of the information in the assertions in Item 1, particularly the phrase "digital signal processing," nor the name "Prof. Lu," nor the mention of anything of a proprietary nature, is contained in the specification.

Contrary to Applicant's arguments, on Page 2 of Remarks, regarding the 35 U.S.C. 112 first paragraph rejection, the specification and drawings must be more than a vague functional overview of that which the Applicant claims as his invention. In particular, the relevant statute requires that the specification shall contain a written description of the invention "in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same". In contrast, the specification in question merely

provides a broad overview of the basic parts of a system that allegedly possesses certain abilities.

Furthermore, Applicant asserts, on Page 2 of Remarks, that the use of "open" in modifying "interface" is acceptable. On the contrary, the metes and bounds of all claims must be clearly specified. The very use of the word "open" renders the metes and bounds of the claims unspecified, because "open" indicates that anything may be used.

Applicant asserts, on Page 2, that Jorgensen does not teach or suggest "any solution based on such proprietary digital signal processing architecture" and on Page 3 that said CAI-BIOS is a **proprietary** digital signal processing architecture core by Open Wireless Architecture (OWA) technology **invented and patented** by Prof. Willie Wei Lu, Cuptertino of California." The specification does not mention any of these details nor the phrase "digital signal processing," nor do any of the claims recite a specific CAI-BIOS of the nature described by Applicant on Page 3 of Remarks. Examiner reminds Applicant that the invention is defined by the claims, and that said claims must be supported by the specification and drawings.

***Conclusion***

14. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew W. Genack whose telephone number is 571-272-7541. The examiner can normally be reached on Flex.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duc Nguyen can be reached on 571-272-7503. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Matthew Genack

Examiner

TC-2600, Division 2617

17 December 2007

DUC M. NGUYEN
SUPERVISORY PATENT EXAMINER
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